What is claimed is:

1. A method for arranging a plurality of transmission antennas and a plurality of reception antennas for a radar de vice equipped with a plurality of channels, wherein each of the plurality of channels is comprised of a combination of one of the plurality of transmission antennas and one of the plurality of reception antennas, wherein the radar device is for determining a direction to a target by transmitting an electric wave to the target and receiving the electric wave reflected from the target through each of the plurality of channels, the method comprising:

disposing a first predetermined interval (D) between the transmission antennas and a second predetermined interval (d) between the reception antennas; and

arranging the plurality of channels into channel groups comprising channels using a same transmission antenna of the plurality of transmission antennas, wherein each channel group includes at least one channel having a path length equal to the path length of at least another channel in another channel group using an adjacent transmission antenna, wherein a number of channels varied in path length by a fixed dista nce over all the plurality of channels is larger than a number of the plurality of reception antennas.

2. The method according to claim 1, wherein:

the number of the plurality of transmission antennas is equal to an integer m greater than or equal to tw o;

the number of the plurality of reception antennas is equal to an integer n greater than or equal to two;

the first predetermined interval between the reception antennas is set to d and the second predetermined interval between the transmission antenna is set to D, wherein D is equal to d x k, wherein $2 \leq k \leq n-1$, wherein m and k represent integers;

each of the plurality of channel groups using adjacent transmission antennas includes (n-k) channels, each of which has the same path length as any one of the channels of the other channel group; and

the number of channels varied in path length by a fixed distance over all the plurality of channels is equal to [(m -1) x k +n].

3. A radar device comprising:

a transceiver for transmitting and receiving an electric wave over one of a plurality of channels, each of the plurality of channels comprising one of the plurality of transmission antennas and one of the plurality of reception antennas arranged according to the method of claim 1, and for generating a beat signal by mixing the transmission signal and the reception signal;

a switching control device for successively switching a transmission antenna to be used to transmit the electric wave every predetermined measuring cycle, and for successively switching the reception antenna used to receive the electric wave every predetermined channel switching interval, whereby

a multiplexed signal achieved by time-divisionally multiplexing the beat signals of the channels of the channel group using the same transmission antenna is supplied from the transceiver in the same measuring cycle; and

a signal processing device for determining the direction to a target on the basis of data achieved by sampling the multiplexed signal supplied from the transceiver, wherein the signal processing device includes correcting means for detecting an error occurring between the channel groups different in measuring cycle on the based upon data from channels equal to each other in path length and correcting the data of the respective channels so that the error is offset.

4. The radar device according to claim 3, wherein an error to be corrected by the correcting means includes at least phase.

5. The radar device according to claim 4, wherein the transceiver transmits and receives an electric wave whose frequency is modulated to vary like a triangular waveform with respect to time, and the switching control device includes modulation inclination varying means for varying the inclination of the frequency modulation by varying at least one of the number of reception antennas under switching control and the channel switching interval.

6. The radar device according to claim 3, wherein the transceiver transmits and receives an electric wave whose

frequency is modulated to vary like a triangul ar waveform with respect to time, and the switching control device includes modulation inclination varying means for varying the inclination of the frequency modulation by varying at least one of the number of reception antennas under switching control and the channel switching interval.